
Arsenic

What You Need to Know



What is arsenic?

Arsenic is a naturally occurring element found in the earth's crust. It is found in groundwater, air, food and soil. In the environment, arsenic combines with other elements to form inorganic and organic by-products commonly used as wood preservatives and pesticides.

Some areas of Michigan have naturally high levels of arsenic in groundwater. Exposure to arsenic may have harmful health effects.

How are people exposed to arsenic?

As a natural part of our environment, everyone is exposed to some amount of arsenic. You can come into contact with arsenic in the following ways:

- Eating certain foods. Some fish, seafood, and rice contain arsenic due to uptake from soil and water. This type of arsenic is much less harmful to humans.
- Drinking water contaminated with arsenic. Arsenic in water does not contaminate the air when it evaporates and is not easily absorbed through the skin when bathing or swimming.
- Inhaling dust or smoke from materials containing arsenic (like wood treated with preservatives).
- Work-related exposures can occur in certain occupations.

How does arsenic get into drinking water?

Mineral deposits in some areas of Michigan contain high levels of arsenic. Groundwater flowing through these deposits can dissolve arsenic from the minerals. This may result in elevated levels of arsenic in well water. Arsenic has no smell, color, or taste in drinking water. You need to test your well water to find out if arsenic is present.

Does arsenic cause health problems?

If you are exposed to arsenic, several factors will determine whether harmful health effects may occur. These factors include:

- Dose - How much arsenic is in my body?
- Duration - How long and how often have I been exposed?
- Type of arsenic
- General health, nutritional status, age, and lifestyle

Some people may be affected by small levels of arsenic, others may not. Young children, the elderly, people with long term illnesses, and unborn babies are at greatest risk.

What are the health effects of arsenic exposure?

The health effects of arsenic are not fully known. Studies have shown that exposure to arsenic in drinking water can cause the following health effects:

- Stomach pain, nausea, vomiting and diarrhea
- Numbness in the hands and feet
- Headaches
- Weakness
- High blood pressure
- Abnormal heart rhythm
- Decreased production of blood cells and damage to blood vessels
- Thickening and discoloration of the skin
- Increased risk of certain cancers (skin, bladder, liver, lungs)

Some of these problems can be seen with other illnesses, which makes it difficult for a doctor to detect arsenic poisoning. If you or your family are worried about health problems caused by arsenic, see your doctor. You should also have your well water tested.

Can a medical test tell me how much arsenic is in my body?

Yes, there are several ways you can be tested for arsenic exposure. A urine test is a simple way to tell if you are being exposed to harmful levels of arsenic

Who can test well water for arsenic?

The Oakland County Health Division Laboratory can test water for arsenic; contact the Health Division for more information. The Michigan Department of Environmental Quality Laboratory may also help.

What can be done if there is an elevated amount of arsenic in the well?

If an elevated level of arsenic is found, stop using your well water for drinking and cooking food and use bottled water for these purposes.

There are a few options available to reduce arsenic exposure from the water:

- Consider connecting to a public water supply, if one is available.
- Replace or modify your well to draw water from an aquifer with lower levels of arsenic. Contact your local health department to see if this is an option.
- Install a water treatment system, such as a point-of-use reverse osmosis (RO) system, ultra-filtration, or arsenic adsorption. Water softeners and activated carbon filters do not effectively reduce arsenic levels.



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